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SELECTIONS FROM THE RECORDS OF THE BOMBAY GOVERNMENT

NO. LVIII. - NEW SERIES.

DR. LALOR'S REPORT ON THE HILL DISTRICTS TO THE SOUTH-WEST OF MEHUR, IN SIND

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SELECTIONS FROM THE RECORDS OF THE BOMBAY GOVERNMENT.

No. LVIII.—New Series.

PAPERS

CONNECTED WITH A REPORT,

BY

110058

ASSISTANT SURGEON J. LALOR,

ON THE

HILL DISTRICTS TO THE SOUTH-WEST OF MEHUR, IN SIND.

SX - e - 57

Bombay:
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1860.

No. 104 of 1860.

Political Department.

General.

From the Commissioner in Sind,

To His Excellency the Hon'ble Sir George Russell Clerk, K.C.B.,
Governor and President in Council, Bombay.

Dated 17th September 1860.

Honorable Sir,

In March 1859, Sir Bartle Frere addressed the Collectors of Kurrachee and Shikarpoor, and requested them to take measures for ascertaining whether any spots could be found in the Hills on our Western Frontier suitable for the residence of European Officers during the hot weather of Upper Sind. His views on the subject were fully explained to Government in his letter (No. 311), dated 28th September 1859, with which was forwarded a Report from Captain Lionel Dunsterville, Deputy Collector on the Kurrachee establishment, describing the result of his inquiries at "Roheyl"—a point in the Heerthur hills, north-west of Sehwan.

2. I have now the honour to submit, for the information of your Excellency in Council, a Report by Assistant Surgeon Lalor, in medical charge of the 2nd Regiment Sind Irregular Horse, who was in May last detached, by order of Major Merewether, to accompany the Collector of Shikarpoor on a visit to a point on the same range of Hills, but further north than "Roheyl." A copy of Major Merewether's transmitting letter is also forwarded.

3. I quite concur with Major Merewether that, as a temporary resort, to avoid occasionally the trying heat of Upper Sind, the place will prove of great value, and I would submit that the thanks of Government are due to Dr. Lalor for his Report, describing, as it does, a district of which we have had little or no previous information.

The Report is so interesting that I would recommend its being printed as a Government selection.

4. I have asked the Collector of Shikarpoor to favour me with any further information which he can obtain, as regards the population, &c. of these Hills.

I have the honour to be, &c.

(Signed) J. D. INVERARITY,
Commissioner in Sind.

Commissioner's Office, Kurrachee, 17th September 1860.

No. 380 OF 1860.

GENERAL DEPARTMENT.

From Major W. L. MEREWETHER, C.B.,
Political Superintendent and Commandant,
Frontier of Upper Sind,

To J. D. INVERARITY, Esq.,
Commissioner in Sind.

Dated 27th August 1860.

SIR,—Being anxious to obtain good information regarding the true nature of climate, position, and probable advantages of the proposed Sanitarium in the Hills west of the Mehur Deputy Collectorate, as it migh hereafter prove most useful to the Troops serving on this Frontier, I in the end of May last detached Assistant Surgeon Lalor, in medical charge of the 2nd Regiment Sind Horse, to visit the locality, and to reside there during the two months—June and July—when the heat in the plains is greatest.

2. I have the honour to forward herewith a very good and interesting Report, drawn up by that officer, giving a clear account of

the locality, peculiarities of position, climate, and vegetation, to all of which subjects he appears to have devoted as much attention as the limited period of his stay allowed.

3. Judging from his description of the place, and its difficulty of access, it will be of little use to invalids as a resort for the restoration of health; but as a temporary or occasional residence, to break the trying drag of an Upper Sind summer, it will prove of very great value in aiding in the preservation of good health, thereby preventing the lengthened absence from duty, which sickness contracted—and so easily is it contracted—in Upper Sind necessarily entails; and also in helping to do away with the frequent changes of executives, which must always be highly injurious to the interests of Government, and to the welfare of the people of the country.

4. It will certainly prove useful, in respect to the Force which must always be maintained on this Frontier; for, with improved means of approach, which, I imagine, could be effected at a trifling cost, any Officer who was temporarily residing there could easily be recalled, and return to his duty in three, or, if necessary, two days, the whole distance in a straight line being under 140 miles, through a country where camels are procurable at every village. From Kurrachee, a quick journey cannot be made upwards, without arrangements being entered into beforehand, which require time. By the river, the time taken at the best season is generally a fortnight.

5. The great drawback at this Hill station is the distance of water. This, however, I would think might easily be overcome by judicious damming up some of the hollows or small gullies, having only a light fall, and so preserving the rain-water, a regular fall of which, from the accounts given by the people of the country, and experience of this season, may confidently be looked for.

6. There are doubtless many other places in the western range of Hills equally salubrious as that where the Dunna Towers are; indeed, there must be; for the three ranges mentioned by Dr. Lalor—low, medium, and high—run parallel, only occasionably broken by water or volcanic action, from the Moolla Pass at Gundava to where the Gaj River enters the plain, at the boundary of the Shikarpoor and Kurrachee Collectorates. All, however, would have, and, as far as we

know, in a greater degree, the same defect as the Dunna Hill—scarcity and distance of water supply.

7. I trust Dr. Lalor's Report will meet with your approbation.

I have the honour to be, &c.

(Signed) W. L. MEREWETHER, Major,
Pol. Supt. and Comdt., Frontier of Upper Sind.

Political Superintendent's Office, Jacobabad,
27th August 1860.

From Assistant Surgeon J. LALOR,
2nd Regiment Sind Irregular Horse,

To Major W. L. MEREWETHER, C.B.,
Pol. Superintendent, Frontier of Upper Sind, Jacobabad.

Dated 23rd August 1860.

SIR,—In submitting the accompanying Report of the Hill districts to the south-west of Mehur, which I visited during portions of the months of June and July, I have the honour to solicit your attention to the short time I was in the Hills, and the unfavourable season of the year for moving out of doors.

I have therefore seen comparatively little, and been unable to visit any of the higher ranges. The observations embodied in the Report were made with rather inefficient means, but will, I think, be found sufficiently correct to establish the leading facts that required to be known—namely, that the hot winds do not reach so high, and that the place affords a grateful and refreshing change from the plains during the months of summer.

Since the first inquiries were set on foot by the late Commissioner in Sind, several places have been favourably spoken of, and some, perhaps, might be found with greater natural advantages than the present, which has certainly one very great drawback in the want of

water within a convenient distance, the nearest place being, at least, one mile and a half.

But while not advocating a Sanitarium, or Convalescent Station properly so called, involving considerable expenditure, I would beg to observe that, by rendering the present "Towers" more habitable and comfortable, the most beneficial results might be expected generally, in further adding to knowledge of the value of Hill stations, and specially in enabling a number of Officers to carry on their work within range of their duties, and obviating the necessity of going to Kurrachee or Europe, which, as is well known, a very few years in Upper Sind renders it at present imperative.

I have the honour to be, &c.

(Signed) J. Lalor, Assistant Surgeon,
2nd Regiment Sind Irregular Horse.

The " Dunna Towers," built on a ridge of the great Halla range, are situated about fifty miles to the south-west of Mehur, and in that Deputy Collectorate.

After considerable inquiries, especially instituted within the last few years, with the object of procuring a cool retreat during the intensely hot months of summer, this place was selected by Captain Ford, Collector of Shikarpoor, as offering the greatest probabilities of success.

Considered with reference to the surrounding country, it will be found, after an irregular, rugged, and occasionally steep ascent, to overlook all that north-eastern portion of the valley of Sind, to which it forms a barrier, and to be again overlooked by those higher ranges of which the " Khara Tuckha" is here the natural and impassable boundary between Sind and Beloochistan. For about thirty miles to the west of Mehur, a straight road has been marked out by Captain Currie, leading, for the most part, through a desert country, and dependant for cultivation on the mountain torrents. The soil appears to be a fine, rich, brown loam, with apparently a considerable alluvial substratum, from the repeated washings of mountain streams. The

absence of vegetation is but seldom, and only relieved by patches of stunted tamarisk.

Of the remaining twenty miles, fifteen are through irregularly winding gorges, mostly river beds, covered with diluvium, and occasional huge boulders, and up the gradually-ascending slopes of the lower range. This is an exceedingly bad and disagreeable journey at present, but more particularly in the latter portion, where it takes a southerly turn, as here a free current of air is shut out by the now uninterrupted line of hills, while the rocks on either side radiate a powerful and almost stifling heat.

On the wayside are some bold and striking overhanging cliffs, a few reaching a height of fully one thousand feet. This lower range appears to be all of the red sandstone formation of vast horizontal or sometimes slightly oblique stratification, and invariably dips eastward towards the plain. Occasional beds of yellow clay and marl are met with, the evident result of "denudation" of the upper ranges.

Those hills are in every direction intersected by innumerable watercourses, and evince powerful and repeated water action. The ascent from these to the middle ridge, on which the Towers are built, is very abrupt and laborious, though apparently practicable and safe for hill ponies. It is altogether about five miles. The first two over a solid rock of close-grained sand and limestone, about fifteen hundred feet in elevation, thence through the bed of a nullah, flanked on either side by masses of loose sandstone and marl, containing nummulites in large quantity, and in a free state—"detritus from the higher ranges." The remaining three miles to the "Towers" are very steep, and up the middle ridge, the most marked peculiarity of which is, that it dips at an angle of about 45° westward, or in a contrary direction to the lower one just described, and to the upper or "Khara Tucka" immediately beyond. It is as approximately ascertained, from the boiling point of water, about 4,500 feet above the level of the sea, and mainly composed of nummulitic limestone, with the accompanying nummulites and testaceœ, occasionally varied, by bits of quartz, imbedded nodules of carbonate of lime, and pyrites.

Immediately beyond, and striking more directly N. and S., is the "Khara Tucka," six thousand feet high, at least. This dips eastward

at an angle of about 30°, shows considerable traces of water action along its side, and at either flank a huge cliff of fully five thousand feet.

These appear to have been either corroded away by water action, or else thrown off in a convulsion of nature with some violence, altering the strike to N.E. and S.W.

They appear very imposing, especially at early morning, but access to them is difficult, particularly that to the S.W.

Herar.

This overhangs Herar, a pretty little valley, about three miles S.W. of the Towers, containing an abundant supply of water. It is a place of some importance in the hills, was once intended by the Ameers of Hydrabad as a secure retreat, and still shows the half-finished walls and gateways of a fort. At a comparatively early era of creation, this valley must have been inhabited, and curious remains of a by-gone age are seen in the "Kaffir Kotes"—regular and evidently artificial ranges like "river terraces."* They were probably intended as sites for huts and tents, but it would be impossible to ever ascertain how they were formed. The popular belief is, that those huge boulders were lifted into position by the giant race then inhabiting the earth, or they may have been arrested in their descent from the higher ridges by some artificial† contrivance. But, whatever may be the theory of their formation, they are strange and imperishable, though indefinite memorials of an age and race long since passed away.

Soil.

The soil here, as in every place I have seen it in the hills, is a yellowish-red marl, derived no doubt from the disintegration of the rocks, and washed into those plateaus by the water; it is apparently very rich, and in the season under cultivation.

* These terraces were for purposes of cultivation ; they caught the rain-water running down the face of the hill, also "detritus," thus forming slight soil, in which the people sowed jowaree or wheat, according to season. The practice is common now all over Afghanistan and the Himalayas, and was so throughout Beloochistan when it was more densely populated than at present. The inhabitants of these days are always styled "Kaffirs," hence these terraces and other remains are called "Kaffir Kotes."—W. L. M.

† Most probably accidental, and taken advantage of by the inhabitants to form the terraces.—W. L. M.

At the time of our visit, a small patch of indifferent "Jowaree" was on the ground. Excellent water can be always had from Herar; but the road is difficult. The rivulet, on leaving the valley, is lost to sight beneath the rocks for nearly half-a-mile, re-appearing in a fine gushing stream, at fully three hundred feet of a lower level than the point of its disappearance. There seems little doubt but that it still retains the original bed, and that the superimposed rock is of a comparatively late formation, and in many places composed of petrified vegetable matter and "debris."

Large masses of this structure, with dull, hollow resonance, may be occasionally met, which, on fracture, give the appearance of tube and fibre,—unmistakably vegetable. Few sights are more curious or picturesque than the course of this revulet, which, up to the point of its disappearance in the valley, exhibits no higher organisation than the "Leech," while here, at its escape from the rocks, it teems with animal life, varied and advanced in the scale of nature.

Amongst these are many kinds of fish, similar apparently to the roach and perch, crabs, cray-fish, and myriads of minute articulate animals.

The lofty, overhanging crags on either side are studed with flowers of various colours. In the bed of the stream are some huge, grey, limestone boulders, often twenty feet high, and as many in circumference, with masses of conglomerate, showing that once a mighty torrent must have swept down those mountain sides. Some beautiful ferns of the Genera? and Trichomanes cover the edges of the spring, and a few well-known trees in Sind—the siris, peepul, babul, peloo, and fig, together with the pink oleander, large reeds, and a stunted variety of bamboo—appear to be indigenous, though not flourishing in this place. On leaving the rocks, the stream winds through the intermediate valley, and is lost amongst the lower hills, affording at one place—Ut-ke-Pere, about four miles from the Towers—excellent drinking-water. Several attempts have been made to procure a supply of water in the immediate neighbourhood of the Towers, and two tanks, partially excavated by Captain Ford, will test the possibility of retaining the rain-water in a convenient situation. According to the hill men, the water, after a wet season, lodges for four or five

One variety unknown.

months in any place with a favourable water-shed. The general aspect of the Hills is wild and barren ; but thousands of sheep and goats find herbage amongst the stunted shrubs and trees. Of the latter, there are few of any size, and actually on the Hills themselves none approaching the dignity of forest tree. The chief are the *Salvadora Indica*, " Peloo," and a variety of *Persica*, " Kusseer," which curiously insinuates its root into the rocks and grows to some size. The leaves and peduncles contain numerous follicles of essential oil, which emit a heavy and disagreeable odour when pressed, and the fruit is exceedingly pungent and tastes like mustard. Two capers—*Capparis Aphylla* and *Galliata*, " Kurreil" and " Kulvery,"—a variety of small " Lusooree," the " wild almond," and a small " Khamual shrub," with red, tasteless berries, afford eatable fruit. In addition to these, the two most remarkable woods in Sind grow here—the " Khow," *Olirum Montanum*, and the " Loheroo," *Tectona Grandiflora*. The former contains a close, hard, and finely-grained heartwood, and is much esteemed for turning purposes ; and the latter —the hardest wood known—is extensively employed by the natives, and is the one from which the primitive Belooch guitars are made. This tree rarely grows to any size ; but the fine, large branches of of rich orange flowers are beautiful and attractive on the hill-side. Both trees are good marks of altitude, and are seldom found growing under an elevation of three thousand feet. Amongst the herbs are a variety of catmint " Dathro," a pretty *Campanula*, *Veronica*, " prickly Convolvulus," and many and uninteresting varieties of *Argemone* and thistle. But the most universally useful plant in the Hills is the *Chamerops Ritchiana*—a kind of under-sized fan-palm known as the " Pees." From the leaves of the " Pees" are manufactured ropes, mats for the walls and roofs of huts, and sandals, and the decayed parenchymatous tissue affords excellent tinder.

Few if any wild animals live in those Hills—a variety of badger, known to the natives as the " Gorput," being the only one with pretensions to the name. An occasional hyena or panther prowls down from the other ranges ; but the circumstance must be rare. The " birds" differ little from those of the plains ; the goshawk and vulture, a small variety of rock pigeon, and a beautiful little " swift" that

appears towards evening and poises itself in the air with the greatest degree of elegance, a few partridges scattered here and there, are probably of a variety peculiar to the Hills. Few reptiles are found. A lizard of the genus Ignana, completely black (shining), and most unsightly, with extensible tongue and equal number (five) of fingers and toes, was the only strange specimen I saw. Snakes of a poisonous description do not I believe exist; and the only venomous animal appears to be a variety of the yellow scorpion. Its sting, though very painful, is not I magine dangerous. I treated two cases, in which the pain subsided quickly, and the inflammation was inconsiderable. I have not heard of any disease endemic to those Hills, and the people say they never suffer from fever. A great number of the Collector's people were troubled with a kind of "urticaria," which I attributed mainly to the want of vegetables. Having thus briefly mentioned the leading topographical and natural features, the following remarks on the more important subject of climate, and the extent to which its physical characters are modified, will be more easily understood. It must be premised that the meteorological experiments and observations embrace but a very short period of time—namely, the last fifteen days of June, and the first twenty-eight of July. It will be therefore perceived that there has been not only no opportunity of contrasting them with other seasons, but not even with other months of the year. The observations on temperature were taken from a thermometer suspended on the outer-side of the inner wall of a tent, opposite the door-way, and exposed to a free current of air; but during the month of July within the Towers, though otherwise under the same influences. The experiments on humidity were made with the ordinary thermometer, the bulb of which, enveloped in muslin, was kept wetted by the usual contrivance, and the indications, contrasted with the naked instrument, suspended along side. The observations on solar radiation were taken also from the common thermometer, with attached metallic scale. The bulb was wrapped in dark cloth, and the instrument, with three or four folds of brown paper interposed, was laid horizontally on the ground, directly under the sun's rays. Not having had a self-registering thermometer, the indications must be

received only as the limits of observation, and not strictly as the maxima or minima.

With regard to temperature then—the first and great element of climate,—the mean of sixteen observations, taken at 6 A.M. and 2 P.M. respectively, during the last fifteen days of June, was 84° 20′; the greatest maximum 97°, and minimum 76°. The mean daily variation during the same time was 5° 6′; the greatest maximum 14°, and minimum 1° 30′. Solar radiation was powerful, but tempered by cool breezes, setting chiefly from the N.W. during the first week, but afterwards from the E. and N.E. These latter days were particularly cool and moist, accompanied by light clouds and rain. The thermometer never rose above 78°, and the daily variation was a minimum. The nights were invariably pleasant—a few positively cold,—and in none could warm covering be conveniently dispensed with. High winds—cold, but otherwise of an exceedingly disagreeable nature—prevailed at the lunations in June. The small particles of sand and dust were swept along with a violence such as rendered walking, or sitting in exposed situations, very unpleasant. Shortly after the E. and N.E. breezes spring up, the valley below becomes covered with fog, appearing at first in small patches, but gradually spreading, and finally rising above the level of the Towers, seemed to settle along the top and sides of the Khara range. During the nights, a good fall of dew, and in the day a most grateful alternation of cloud and sunshine. A slight shower of rain on the 30th, and again the atmosphere became dry. During the month of July, as may be seen from the annexed table, the atmosphere was much more uniform, the temperature lower, and daily variation slight. There were none of those high winds so disagreeable in June. The first experiments on humidity show a powerful evaporation and unduly dry state of the air, the mean depression amounting to 28°. Owing to want of instruments, the observations were then suspended until the end of the month, when, as will be seen, a very considerable change had taken place, and the mean depression was only a few degrees. In July, there was a marked, but gradual and never violent, transition from dryness to moisture, which gave to the month its decidedly agreeable character. The observations on solar radiation show a different result

from what might have been expected, and opposed to the theory that "the calorific effects of the sun increase as we ascend." The greater clearness of the atmosphere and general absence of clouds seem to favour the theory. But the appended table by Mr. Wright, Apothecary, in charge of the Mehur hospital, plainly shows the statical effect of the sun's rays on the thermometer to be much greater in the plains. There is every reason then to suppose that the thermometer can be only taken as a measure of the accumulated free heat, which will be greater in the plains, both from the wider extent of radiating surface and the forced accumulation from superincumbent pressure. The period of the highest range of the thermometer was between one and two o'clock,—about one hour earlier than the greatest maximum within doors. From the nature of the locality and absence of vegetation, the glare is considerable; but owing also to the greater purity and uniformity of the atmosphere, the sun's rays are never refracted in that dazzling "mirage," and the sickening effects of both the glare and solar heat in the plains are never experienced.

E. and N.E. winds were almost the only ones during the months of June and July. This great uniformity results, no doubt, from the vapour rising out of the plains, and carried against the sides of the mountain, causing some condensation—a vacuum,—and consequent rush of air in those directions. Once a southerly wind swept over the valley of Herar, and approached in effects the hot winds of the plains. Rain came on towards the end of June. The vapour upraised from the plains formed for days, with low and continued mutterings of thunder, along the Khara, and at last fell in all the bright tints of a summer's evening shower. During the month of July, those grateful and refreshing showers were of constant occurrence. The amount of heat evolved in condensation was curiously demonstrated in the occurrence of a hot wind immediately following the subsidence of the rain. The thermometer suddenly rose from 70° to 84°, and as quickly fell again. The accompanying tables show comparatively the temperature of the Hills and Plains during the months of June and July. It must be observed that the Hospital tables, though embracing the most important indications—six A.M. and four P.M.,—do not show the greatest maximum, which is about 2·30 P.M.:—

Moteorological Register for the month of June.

June.	Thermometer in Air.		Wet Bulb.		Solar Radiation.		Winds.		Remarks.
Date.	6 A.M.	2 P.M.	6 A.M.	2 P.M.	9 A.M.	4 P.M.	Direction.	Force.	
15	81°	89°	60°	68°	..	128°	N.W.	Brisk.	Very dry and parching.
16	82	84	60	56	..	..	Do.	Do.	
17	81	87	..	..	..	...	Do.	High and strong.	
18	80	86	..	..	130°	..	Do.	Stormy.	Tents carried away.
19	77	84	..	..	130	144	Do.	Do.	Day continued very stormy and disagreeable.
20	86	95	..	..	..	..	Do.	Do.	
21	84	97	..	..	..	136	Do.	Dull.	
22	80	87°30	..	..	..	..	W. & N.W.	Calm.	
23	82	86	..	..	..	115	N.E.	Cool.	
24	84	89	..	..	..	147	N.W.	High and strong.	
25	83	92	..	..	..	130	N. & N.W.	Calm.	
26	80	94	..	..	..	128	N.N.E.	Light and variable.	Clouds to S. W.; heavy due at night.
27	78	84	..	..	..	130	N. & N.E.	Light.	
28	76	78	74	72	..	135	Do.	Do.	Heavy fog in plains, mounting towards the hills.
29	77	82	72	73	..	132	E.	Do.	
30	76	78	74	74	..	112	E.	Do.	

Meteorological Register for

July.	Thermometer in Air.				Wet Bulb.		Solar Radiation.	
Date.	6 A.M.	9 A.M.	2 P.M.	5 P.M.	9 A.M.	3 P.M.	1 P.M.	4 P.M.
1	79°	79°	83°	83°	77°30	72°	132°	110°
2	79°30	82	88	89	70	65	137	118
3	83	83	92	91	62	61	142	131
4	84	84	88	88	62	61°30	130	124
5	86	89	90	91	61	61	125	124
6	84	91	92	91	61	62	146	109
7	84	86	92	93	57	60	146	126
8	80	82	91	92	58	59	140	128
9	79	85	90	89	59	61	144	126
10	74	82	83°30	84	56	66	135	121
11	80	85	87	88	60	57	142	130
12	82	86	88	89	62	60	140	128
13	92°	96°	97°	97°	..	..	..	..
14	92	92	93	93	..	..	..	..
15	80	82	82	82	71°	70°	..	..
16	81	82	84	84	..	..	..	..
17	78°30	78°	82°	83°	71°	71°	120°	112°
18	75	78	81	82	71	69	126	105
19	79	79	82	83	66	66	131	122
20	81	83	87	87	66	66	131	128
21	83	84	87	87	68	61	130	120
22	84	85	87	88	68	72	133	120
23	83	83	80	80	72	72	118	112
24	79	76	78	80	72	70	115	111
25	77	78	82	83	69	72	110	110
26	79	79	84	84	71	70	127	117
27	79	79	83	85	71	71	127	118
28	72°30	75	85	85	70	71	115	112
29	..	..	..	..	..	..	..	..
30	..	..	..	..	..	..	..	..
31	..	..	..	..	..	..	..	..

the month of July.

Winds.		Remarks.
Direction.	Force.	
N.E.	Variable.	Mutterings of thunder, and few drops of rain.
N.E.	Light.	Thunder at 3 P.M.
N.	Do.	
E.	Do.	Still; rain clouds N.
N. and N.W.	Brisk.	Do. do.
N.	Calm.	Heavy clouds (strati).
N.W.	Brisk.	Strong wind during night (cold).
N.W.	Light.	Calm and pleasant.
N.E.	Do.	Do.
N. and N.W.	Light.	Fog beginning to form up.
N.	Do.	Fog forming up.
E.	Do.	Do.
S.	Calm and hot.	In the valley of Herar, about one thousand feet lower than the Towers.
E.	Light.	
N.E.	Cool and pleasant.	
S.	Cool.	
N.E.	Light.	Dew last night.
N.E.E.	Brisk.	Dew last night, rather heavy.
N.E.	Do.	
N.W.	Light.	Clouds S.W.
Do.	Do.	Lightning.
Do.	Do.	Heavy electric clouds over the Khora.
N.E. and E.	Do.	
E.	Do.	Do. do. do.
E.	Do.	Rain—a beautiful shower.
E. and N.E.	Do.	Thermometer fell to 68°.—More rain.
Do.	Do.	A good fall of rain at 6 P.M. A little rain; very pleasant.
Do.	Do.	

2ND REGIMENT SIND IRREGULAR HORSE.

METEOROLOGICAL REGISTER KEPT IN THE HOSPITAL OF THE ABOVE CORPS.

Jacobabad, 1st June 1860.

Date.	Minimum.	Winds.	Maximum.	Winds.	Remarks.
1860					
June 1st	93	SW	102	SE	
„ 2nd	89	SE	102	SE	
„ 3rd	83	SW	102	SW	
„ 4th	84	SE	104	SE	
„ 5th	84	SE	104	SE	
„ 6th	85	SE	102	SE	
„ 7th	85	SE	104	S	
„ 8th	85	SE	104	S	
„ 9th	89	SW	105	S	
„ 10th	89	SE	104	S	
„ 11th	88	SE	104	S	
„ 12th	90	SE	104	S	
„ 13th	92	SW	102	SW	
„ 14th	85	SW	102	SE	
„ 15th	85	SW	102	S	
„ 16th	85	SW	102	S	
„ 17th	87	SE	102	SE	
„ 18th	87	SE	102	SW	
„ 19th	89	SW	102	SE	
„ 20th	86	SE	102	SE	
„ 21st	90	SE	102	SE	
„ 22nd	90	SE	102	SE	
„ 23rd	90	SW	109	SE	
„ 24th	92	SW	110	SE	
„ 25th	92	SE	110	SE	
„ 26th	93	SW	110	SE	
„ 27th	90	SW	99	SE	
„ 28th	90	SW	99	SE	
„ 29th	90	SW	100	SE	
„ 30th	91	SW	104	SE	

2ND REGIMENT SIND IRREGULAR HORSE.

METEOROLOGICAL REGISTER KEPT IN THE HOSIPTAL OF THE ABOVE CORPS.

Jacobabad, 1st July 1860.

Date.	Minimum.	Winds.	Maximum.	Winds.	Remarks.
1860					
July 1st	89	SW	103	SE	
„ 2nd	91	SW	102	SE	
„ 3rd	91	SW	109	SE	
„ 4th	91	SW	105	SE	
„ 5th	90	SW	105	SE	
„ 6th	90	SE	105	SE	
„ 7th	91	SE	104	SE	
„ 8th	91	SW	105	SW	
„ 9th	91	SE	103	SW	
„ 10th	90	SE	101	SE	
„ 11th	91	SE	101	SE	
„ 12th	90	SE	100	E	
„ 13th	90	SE	104	SE	
„ 14th	90	SE	104	SE	
„ 15th	90	SE	103	SW	
„ 16th	90	SE	100	SW	
„ 17th	90	SE	100	SW	
„ 18th	90	SE	100	SW	
„ 19th	92	SE	102	SW	
„ 20th	91	SW	102	SW	
„ 21st	91	SW	103	SW	
„ 22nd	91	SE	104	SE	
„ 23rd	90	SE	100	SE	
„ 24th	88	SE	100	SE	
„ 25th	91	SE	101	SE	
„ 26th	92	SE	106	SE	
„ 27th	92	SW	100	SW	
„ 28th	89	SW	101	SW	
„ 29th	83	SE	90	SE	
„ 30th	88	SE	93	SE	
„ 31st	88	SE	94	SE	

Range of Thermometer at Mehur.

Date.	In the Shade.	Under the Sun.			
	12 Noon.	1 o'clock.	2 o'clock.	3 o'clock.	4 o'clock.
1860					
July 16th	99	153	150	140	....
„ 17th	99	150	147	136	120
„ 20th	104	153	145	131	125
„ 21st	103	157	148	122	120

(Signed) J. WRIGHT, Apothecary.

According to the tables just given, the temperature, even during the hottest months of the year—June and July,—bears a very strong and favourable contrast to that of the plains.

But it is the modifications of the other physical conditions of climate—the buoyancy and elasticity of the atmosphere, owing to its escape from such enormous superincumbent pressure—that constitute its most pleasant feature.

This is the first thing that strikes a stranger on visiting the Hills, and enables him to take an amount of exercise without the accompanying feeling of lassitude, which, from a long experience of the plains, he would have believed impossible. The only hot months of the year I believe to be June and the early part of July. Once moisture prevails—as it did this season in July, and the natives say does always about the same time,—the climate becomes most equable and pleasant.

Having thus given a general idea of those Hills, together with their leading natural and climatic features, I would now beg to submit the advantages that may result from the inquiries lately made by Captains Ford and Dunsterville.

Previous to the investigations of Captain Dunsterville, the hot winds were believed to prevail all over those Hills, the mere elevation of which was only supposed to expose them the more to the trying effects of heat, glare, and radiation, and that the establishment of a Sanitarium or cool retreat was impossible. No doubt, in the present state of Upper Sind, a Sanitarium is not only unnecessary, but would, I believe, be injudicious, from the comparative solitude to which it would be doomed. The number of Europeans is very limited, and the facilities of reaching Kurrachee—which, in addition to a change of climate, affords the equally grateful one of society—sufficiently great for any one whose means can afford it, or services be dispensed with. But that such a place can be found is nevertheless of the greatest importance, in a remote aspect, should the vicissitudes of State even require an increased establishment of Europeans.

The immediate benefit conferred by the present cool retreat, in enabling a certain number of Officers to carry on their official work, without that detriment to bodily and mental vigour, which drives so many to seek a change before they have been more than a few years in Upper Sind, must be apparent.

The present accommodation at the Towers is unsatisfactory, and nothing but previous experience of the plains would induce any one to seek the change.

But a good deal has been done—a tank excavated;—sufficient, at least, to test the probability of obtaining water there, and the Towers, begun originally by the Ameers, have been roofed, and made into a comparatively comfortable state. A little more money, as judiciously expended, would not only procure for the Civil staff of the Shikarpoor Collectorate a healthy and beneficial change during the hot months, but would likewise be the means of obtaining valuable, and, perhaps, ultimately very necessary information regarding the climate, and other natural and physical features of all the Hill districts bounding the plains of Sind.

(Signed) J. Lalor, Assistant Surgeon,
2nd Regiment Sind Irregular Horse.

25*th August* 1860.

No. 3622 OF 1860.

REVENUE DEPARTMENT:

Dated Bombay Castle, 11th October 1860.

To the COMMISSIONER in SIND.

Copy of the Resolution passed by Government on the foregoing Documents.

Dr. Lalor should be thanked for his able Report; and it should, as suggested by the Commissioner, be printed as a Government selection.

A. D. ROBERTSON,
Acting Secretary to Government.

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